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“Mexico, Public Policy and Obesity in a Global Context”

A Thesis Presented to

The Faculty of the College of Arts and Sciences

Master’s Program in International Studies

University of San Francisco

By

Daniela C. Bermudez

December 2016

“Mexico, Public Policy and Obesity in a Global Context”

In Partial Fulfillment of the Requirements for the Degree

MASTER OF ARTS

in

INTERNATIONAL STUDIES

By

Daniela C. Bermudez

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Under guidance and approval of the committee, and approval by all the members, this thesis project has been accepted in partial fulfillment of the requirements for the degree.

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ABSTRACT

Mexico has one of the most obese populations in the world. A country known for its diversity of rich flavorful food is drowning in low nutritional food products. This thesis examines Mexico's obesity epidemic within the larger global context of international economic trade policies, public policies and Mexico's health policies. The key research questions are 1) why is there an obesity epidemic in Mexico? and 2) what remedies should Mexico implement to control it? This thesis contributes to a viable policy strategy for the Mexican government to control and prevent the further increase of this obesity epidemic. Reviewing both the governmental and non-governmental policies and practices, I argue that an inclusive and united effort from both governmental and non-governmental organizations is crucial. I identify seven remedies that will help build a strong policy strategy: 1) increase physical movement in society; 2) promote health campaigns to educate individuals about the risks and consequences that junk food may inflict; 3) encourage the drinking of water instead of soft drinks; 4) regulate food sold in and around schools; 5) implement further fiscal regulations on low nutritional value products; 6) regulate marketing towards children from multinational food corporations; and 7) incentivize local markets by buying locally and supporting agricultural development.

TABLE OF CONTENTS

ABSTRACT.....	iii
TERMS AND ABRIVIATIONS.....	vi
ACKNOWLEDGEMENTS.....	ix
CHAPTER I: INTRODUCTION.....	1
THESIS OUTLINE.....	3
CHAPTER II: MEXICO’S ECONOMIC POLICIES.....	6
IMPORT SUBSTITUTION INDUSTRIALIZATION.....	7
IDEOLOGICAL SHIFT: GATT AND NAFTA.....	9
CHAPTER III: INDUSTRIALIZATION OF FOOD.....	16
GLOBAL FOOD POLICIES SINCE 1980.....	16
OBESITY.....	25
MEXICO’S HEALTH.....	27
FOOD INDUSTRY AND CONSUMPTION.....	28
CHAPTER IV: GOVERNMENTAL AND NON-GOVERNMENTAL	
PERSPECTIVES.....	32
WORLD ALERTS.....	32
MEXICAN GOVERNMENTAL POLICES.....	34
NATIONAL HEALTH PLANS.....	34
OTHER GOVERNMENTAL ORGANS.....	39
NON-GOVERNMENTAL INITIATIVES.....	42
CONSUMER POWER RIGHTS.....	42
ALLIANCE FOR A HEALTHY NUTRITION.....	43
CHAPTER V: THE CASE OF MEXICO’S SODA TAX.....	47
WATER VS. SOFT DRINKS.....	47
SODA TAX 2014.....	50
CHAPTER VI: CONCLUSION.....	56
THE CASE OF BRAZIL.....	58
FUTURE STUDY.....	61
REFERENCES.....	63

TABLES

TABLE 1: Prevalence of Childhood Obesity.....	13
TABLE 2: Average Caloric Intake	14
TABLE 3: Prevalence of Overweight in Adults in OECD Countries.....	19
TABLE 4: FAO Mexico's Corn Imports	29
TABLE 5: Obese Population 2009-2014	33
TABLE 6: Coca-Cola World Consumption	45
TABLE 7: UN Water Index 2010.....	48
TABLE 8: Mexico Has The Highest Death Rate From Sugary Drinks.....	51

TERMS

Economic deregulation: The removal of regulations, restrictions or subsidies, especially in a particular industry (Oxford Dictionary, 2016).

Ejido: Common ownership of a piece of land. Communal lands were given by the Mexican government to collectively work and preserve Mexican agricultural land.

The U.S. Farm Bill: An omnibus, multi-year piece of authorizing legislation that governs an array of agricultural and food programs. Titles in the most recent farm bill encompassed farm commodity price and income supports, farm credit, trade, agricultural conservation, research, rural development, bioenergy, foreign food aid, and domestic nutrition assistance (Johnson, R., 2014).

ISI: Import Substitution Industrialization

Non-communicable Diseases: Diseases that are not passed from person to person. The four main types of non-communicable diseases are cardiovascular diseases, cancers, chronic respiratory diseases and type II diabetes (WHO, 2016). They are of long duration and generally slow progression.

Nutrition transition: The shift to high caloric diets. As incomes rise, individuals have access to an abundance of high-calorie foods if they become less active, this can lead to increases in obesity and obesity-related chronic diseases, such as type II diabetes and heart disease (Harvard, 2016).

Obesogenic: Promoting excessive weight gain: producing obesity.

SAP's: Structural Adjustment Policies are economic policies which countries were required to follow in order to qualify for World Bank (WB) and International Monetary Fund (IMF) loans. These policies included a more individualistic development, such as

privatization, reduction of subsidies, foreign direct investment, and free trade. Over all a more market oriented economy. The loans would help countries pay off older debts owed to commercial banks, governments and the World Bank. (The Whirled Bank, 2016).

Urbanization: The process of making an area more urban. (Oxford Dictionary, 2016)

ACRONYMS

ANASAESO: National Agreement for Nutritional Health, and Strategy Against Overweight and Obesity (*Acuerdo Nacional para la Salud Alimentaria Estrategia Contra el Sobrepeso y la Obesidad*).

COFEMER: The Federal Regulatory Improvement Commission (*Comisión Federal de Mejora Regulatoria*).

CONACYT: National Committee for Science and Technology (*Consejo Nacional de Ciencia y Tecnología*).

ENSANUT: National Nutritional Survey (*Encuesta Nacional de Salud y Nutrición*).

FAO: Food and Agriculture Organization of the United Nations.

FDI: Foreign Direct Investment.

GATT: General Agreement on Tariffs and Trade.

GDP: Gross Domestic Product.

GMO: Genetically Modified Organism.

IEPS: Special Tax on Production and Services (*Ley del Impuesto Especial Sobre Producción y Servicios*)

IFRC: International Federation of Red Cross and Red Crescent Societies.

IMF: International Monetary Fund.

INEGI: National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía*).

ISI: Import substitution industrialization.

MNC: Multi- National Corporation.

NAFTA: North American Free Trade Agreement.

NCD: Non-communicable Disease.

NGO: Non-Governmental Organizations

OECD: The Organisation for Economic Co-operation and Development

PEMEX: Mexican Petroleums (*Petróleos Mexicanos*)

SSA: Mexican Ministry of Health (*Secretaria de Salud*)

USDA: United States Department of Agriculture

WB: World Bank

WTO: World Trade Organization

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I would like to express my sincere gratitude to all who supported me throughout this journey and cheered me on to succeed in this endeavor. First and foremost, my family: my father who has given me all his support, wisdom, and taught me how to endure in the hardest of times. I find in him a true-life role model. My mother who is my rock, she understands me even when I do not understand myself, I would be lost without her. My beloved sisters, who constantly remind me that no matter how busy you are there is always time for a good laugh, they ground me and grow as a person just by being with them, love you both with all my heart. My grandfather Jaime and grandmother Tita for sharing with me their wise and knowledgeable experiences of life and my cousin Lorena, without her I would have not been able to write a decent paper.

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“Yo no estudio para saber más, sino para ignorar menos”

- Sor Juana Inés de la Cruz

CHAPTER I: INTRODUCTION

According to the Institute for Health Metrics and Evaluation, nearly 30% of the world's population are obese or overweight (C.J.L. Murray, 2014). Obesity is a problem that affects people all over the world regardless of income or age. I first became interested in this global health phenomenon of over nutrition and unhealthy eating patterns when I learned that Mexico, the country that I love and hold dear to my heart, has one of the highest rates of obesity in the world. In the fall of 2015, I visited Monterrey, Mexico, the third largest city in the country. It was there where I noticed that a significant number of children, teenagers and adults were overweight. I also noticed that all the concession stands were serving junk food such as chips, sodas and candy. I began to wonder: what led to this increase in the numbers of overweight people? When did it start? Was it negligence from the government, or perhaps from individuals? I soon realized that there was no simple solution to this complex problem.

According to the Organization for Economic Co-operation and Development (OECD), Mexico has one of the fastest growing rates of obesity with over 70% of adults overweight and an estimated 35% suffering from clinical obesity (OECD, 2014:1). There needs to be urgent global action to find a way to stop further escalation.

The goal of this study is to examine the current obesity epidemic in Mexico and propose a remedy to solve this national health epidemic. My research questions ask: why is there an obesity epidemic in Mexico, and what remedies should the Mexican government implement in order to control it? Each chapter of my thesis addresses these questions in either a historical, political or health-related perspective. This thesis contains a review of some of the most important factors that have led to the exacerbated rise in

obesity in Mexican society, as well as some of the policies and actions from both governmental and non-governmental organizations designed to deal with this national health crisis.

In order to address the research questions, I employ a mixed approach of both qualitative and quantitative analysis with data collected from both primary and secondary sources. Primary sources include Mexico's legislation on low nutritional value products, data collected by national health surveys, national health plans, and obesity reports by international organizations such as the United Nations (UN), the World Health Organization (WHO), the Organization for Economic Co-operation and Development (OECD) and the Food and Agriculture Organization (FAO). Secondary sources include academic journals and research regarding economic free trade, world obesity, neoliberalism, and Mexico's increase in caloric intake.

To better evaluate this rising health phenomenon on obesity, I examine some of the historical changes that have led to this over-nutrition problem in Mexico and around the world. I especially examine the differences between Mexico's health environment before and after the imposition of neo-liberal economic trade and agricultural policies. I implement a policy analysis between both the governmental and non-governmental health policies in Mexico. I then highlight the commonalities between the existent health policies. By doing so, I pinpoint the possible remedies that both the Mexican government and non-governmental organizations could implement to control the growing rates of obesity.

I recommend that the Mexican government needs to change from within, and change internal policies and customs. Mexico lacks a joint effort between government

and non-governmental organizations and without this collaboration and cooperation, unhealthy lifestyles will continue. However, the approved 2014 fiscal policy (Special Tax on Production and Services), serves as a case study and precedent as one of Mexico's successful health policies. A joint effort between governmental and non-governmental organizations exemplifies the viability of further cooperation against obesity rates in Mexico.

I argue that fiscal measures, health campaigns and health education programs are necessary to control and prevent obesity. However, in order for Mexico to reduce its levels of obesity there is still a need for more inclusive health policies. Thus, I highlight seven key points common to the policies of both government and civil society organizations. These key points will promote better development and protection of Mexico's overall health: 1) Increase physical movement in society; 2) promote health campaigns to educate individuals about the risks and consequences that junk food may inflict on health; 3) encourage the drinking of water instead of soft drinks; 4) regulate food sold in and around schools; 5) implement more fiscal policies on low nutritional value products; 6) regulate the marketing towards children from multinational food corporations; 7) incentivize local markets by buying locally-grown food and supporting local agriculture.

Thesis Outline

Chapter II examines the economic, political and social context that has contributed to the current health crisis. It contains the history of Mexico's use of land since the Mexican Revolution, including the division of property, and the concept of the *ejidos*. I explain how in the 1980's the Mexican government reformed its political

institutions and implemented neoliberal trade policies. I then discuss the effects of economic deregulation on Mexico's agriculture sector. Finally I assess how the introduction of highly processed foods to daily life worsened Mexico's overall health.

In Chapter III, I review three existing bodies of literature, global food policies, obesity and health. Reviewing these areas of research will encompass three different viewpoints: 1) A global view on health and the worldwide escalation of obesity and overweight diseases since the 1980's; 2) Obesity and how the rise of this disease has a link between world health and non-communicable diseases; and 3) how health has changed since the implementation of neo-liberal policies and economic deregulation.

In Chapter IV, I present a comparative policy analysis of international, national and social perspectives regarding Mexico's health crisis. I analyze international organizations perceptions of Mexico's obesity problem and their proposed remedies. Afterwards, I present a national historical health policy timeline, highlighting the policies that have either supported or restricted the production and consumption of highly processed products. Finally, I compare Mexican Federal Government policies with two major non-governmental organizations' initiatives in order to have a more comprehensive perspective on the epidemic of obesity.

In Chapter V, I examine the Special Tax on Production and Services as a case study. In 2014, the Mexican government approved a tax on all soft drinks. This measure, created a precedent on the effectiveness of inclusive efforts between both the government and society. I argue that given the positive outcome of this policy, Mexico should not only see taxation as a viable instrument to combat obesity, but should push for this same measurement in all low nutritional value products.

Finally in Chapter VI, I review the findings of the thesis. I discuss the seven commonalities between the governmental and non-governmental organizations that will create a stronger strategy to combat the increase in obesity. Lastly, I review the limitations of the thesis and discuss further research that should be conducted.

CHAPTER II: MEXICO'S ECONOMIC POLICIES AND THEIR CONTRIBUTION TO OBESITY

In 1910 Mexican Revolution, Emiliano Zapata called for “Land and Liberty.” Millions of Mexicans fought to achieve this idea. For ten years, Mexican citizens fought to own and work their own land without the intercession of any state authority, foreign or national. Their goal was to own and control land so that they could provide a sustainable agricultural livelihood with good food and living conditions for their families and future generations.

During the 1920's, the national government was consolidated and a new democratic government established. However, it was not until the Presidency of Lázaro Cardenas (1934-1940) that the Mexican nation was finally politically stable. At the time, Mexican society faced significant poverty and malnutrition in both rural and urban areas. Agricultural reforms played a substantial role in stabilizing the relationship between the government and the people. Subsidies were granted via Agrarian Reform policies to support growth and meet the demand of food.

Revolutionary leader Emiliano Zapata originated the agrarian reforms that gave President Cardenas' government legitimacy. One of the central policies President Cardenas implemented was the enforcement of Article 27 of the 1917 Constitution. This article extinguished the *hacienda* form of land ownership (a colonial system inherited from the Spanish during the conquest) where large agricultural estates were owned and controlled by a small number of wealthy families. The *ejido* (common lands) system was introduced instead. The *ejido* system is land ownership based on a more equitable division of Mexican land among the people in which several individuals jointly own the

land that was once owned by only one person. The *ejido* co-ownership rights were passed down to future generations and could not be sold, this ensured the safety and livelihood of the small landowners. The division of land by the *ejido* system consolidated the union of the nation. Mexico not only achieved food security but also strengthened the relationship between citizens and government.

At the time, Mexico had established a protectionist form of government and economy, favoring Mexico's markets with subsidies and trade barriers. Protectionist policies such as these were also implemented in the agriculture sector. Mexican citizens livelihood grew at its own pace because of this paternalist governmental. However, Mexico still highly depended on foreign trade to maintain its economy active.

Import Substitutions And Industrialization

Before the 1940's, the Mexican economy was based on the export of primary goods, similar to many other Latin American countries. President Lázaro Cardenas wanted a more self-sufficient economy for Mexico. In 1938 the Mexican Oil Company (PEMEX), a core sector of Mexico's economy, was nationalized. This effort reflected Cardenas' support for protecting and industrializing Mexico on its own terms rather than becoming dependent on the richer countries. The nationalization of Mexico's oil marked a turning towards a more autonomous national economy.

By 1940, a second attempt at breaking dependency on foreign imports was implemented. Mexico instituted a new form of economic system, known as Import Substitution and Industrialization (ISI), an economic development model that many other Latin American countries adopted as well. The ISI model was meant to industrialize Mexico from within, while building a strong domestic market. Mexico promoted the ISI

model from 1940 to the 1970's. The annual economic growth rate, during the period in which Mexico followed the ISI model, was between six and seven percent. This period was known throughout Mexico as the "economic miracle". The stable economic development also was reflected in the Mexican average life expectancy, which increased by almost 20 years, from 41.5 years to 62.1 (C.A. Gutierrez, 1997:115).

Mexico grew immensely in certain sectors, especially in the northern and northeastern part of the country. Mexico had developed an industrialized sector while still maintaining a strong agriculture sector that provided citizens with easy access to locally produced homegrown products. As people's life expectancy increased, so did the population in cities and towns all over Mexico.

However, by the 1970's, when Luis Echeverria became President the "economic miracle" began to collapse. Mexico started to experience a deficit in the growing demand and its paternalistic form of government started to backfire. An uncontrolled increase in public spending resulted in less income than expenditures. Mexico's economy started to sink between its national debt, foreign debt and inflation.

In the early 1970's President Luis Echeverria of Mexico wanted to mend the division between national capitalists and the popular masses in order to achieve a more integrated economy (Alarcon, D., & McKinley, T., 1992:72). President Echeverria pushed for more import substitution that would produce capital-intensive and intermediate goods, meaning that the Mexican government was investing substantially more on capital than on labor. Although the current system cost the government large amounts of money, President Echeverria wanted to keep investing in it in hopes of it becoming an economy of scale and eventually producing profit margins. Chronic trade

deficit was one of the flaws in the import substitution strategy. Thus, increasing manufactured exports and monopolizing the markets were seen as the solution.

Diana Alarcon and Terry McKinley argue: “Mexico’s general program of development was based on unrealistically optimistic projections of the growth of oil revenues” (Alarcon, D., & McKinley, T., 1992:74). The country took a heavy financial toll when the price of oil, one of the main contributors to the economy, dropped and interest rates sharply increased (Alarcon, D., & McKinley, T., 1992:74). By the end of 1981, the increase in foreign debt escalated to \$78 billion. In August 1982, Mexico was forced to declare an economic moratorium on their external debt, and froze national programs of development (Alarcon & McKinley, 1992:76).

In 1982, Mexico failed in its last attempt against economic liberalization. The failing economic model and very high debt forced Mexico to turn to the IMF for a bailout. It was claimed that the new open market structure would guarantee the payment of the external debt, raise consumer’s living standards, improve purchase power and become more efficient (Saprin, 2001:5). In order to receive financial assistance, Mexico was forced to modify its domestic economic policies and adopt the neoliberal global market structure (Saprin, 2001:3). As part of the structural adjustments required by the IMF, the Mexican government imposed austerity policies in state spending.

Ideological Shift -Free Trade: GATT And NAFTA

The radical change in economic policies, and the shift away from the ISI model led to major changes in the entire economic, political and social structure Mexico had been building over the last three decades. In 1986, Mexico formalized its open door to foreign capital by joining the General Agreement on Tariffs and Trade (GATT). Prior to

Mexico's open economy, imports required government permits that were subject to an average tariff of 27% to a maximum of 100%. By 1990, with the imposition of GATT agreements, no permits were required for most imports; there was an average of 11% tariff with the highest tax of 16% (Gates and Otero, 1996).

The premise that molded current global economic policies was based on the Washington Consensus. An idea, which suggests, "if restrictions on markets were eliminated both within a country and between countries, market forces would efficiently allocate resources" (Magdoff and Tokar, 2010:17). Since 1982, the Mexican government has restructured its economy through a series of Structural Adjustment Programs (SAP). The World Bank (WB) and International Monetary Fund (IMF) granted long-term loans at high interest rates to countries that abided by the "free market" structural adjustment guidelines. The SAP's economic policies followed neo-liberal guidelines such as privatization, open and free trade markets, removal of subsidies, price controls and trade liberalization. During the 1990's, the SAPs continued to increase when Mexico signed the North American Free Trade Agreement (NAFTA). According to the Saprin report (2001:7), the implementation of NAFTA had an adverse effect on the country's sovereignty by exposing it to the subjection of transnational corporation's demands.

The first sector in the economy affected by NAFTA was agriculture. One of the provisions of NAFTA was to remove subsidies to all farming activities in Mexico, which led to an increase in the importation of foreign products. After the 1990's, the Mexican government support for domestic agriculture declined by 70% (R. Barnet, 1995:253). However, when Mexico cut off support to the domestic agricultural sector, it did not result in an even playing field. The U.S. agriculture has always been protected through

U.S. farm subsidies and other agricultural policies, and over production of some agricultural products was tolerated. The U.S. Government continued to support subsidies in order for the United States Government to sell at a very low cost and have the flexibility to expand its markets (T. Wise, 2009). Michael Pollan (2004) argues that U.S. subsidies remained intact because of the economic power of the U.S. Even though the U.S. government speaks of helping developing countries grow, they also encourage American farmers to undercut their products (Pollan, 2004).

The U.S. agricultural products that are subsidized through these programs are the same ones that flood Mexican agricultural markets and increase dependency on U.S. products. As Timothy Wise (2009) argues, since the 1990s, products such as corn, soy, wheat, cotton, rice, pork, chicken and beef increased in exports to Mexico by more than 100%, causing what the World Trade Organization (WTO) calls a “dumping” margin. As a result, small farmers in Mexico were far less able to compete with the production volumes and pricing of the U.S. products. Although opening up markets did create an influx of foreign products that motivated the international economy, it also led to “devastating effects on agriculture towards basic food supplies for the poor” (Magdoff and Tokar, 2010:17). U.S. agricultural protectionist policies caused Mexican domestic prices to be driven down and the demand for local farm products replaced by imports. By 1990, 40% of the beans, 25% of the corn and 30% of the sugar consumed by Mexicans were imported (R. Barnett, 1995:253). The increasing food dependency and the vast availability of U.S. products changed both dietary customs and Mexican food sovereignty. Mexico shifted to a more market-oriented strategy of development that destroyed traditional diets with the proliferation of highly processed foods.

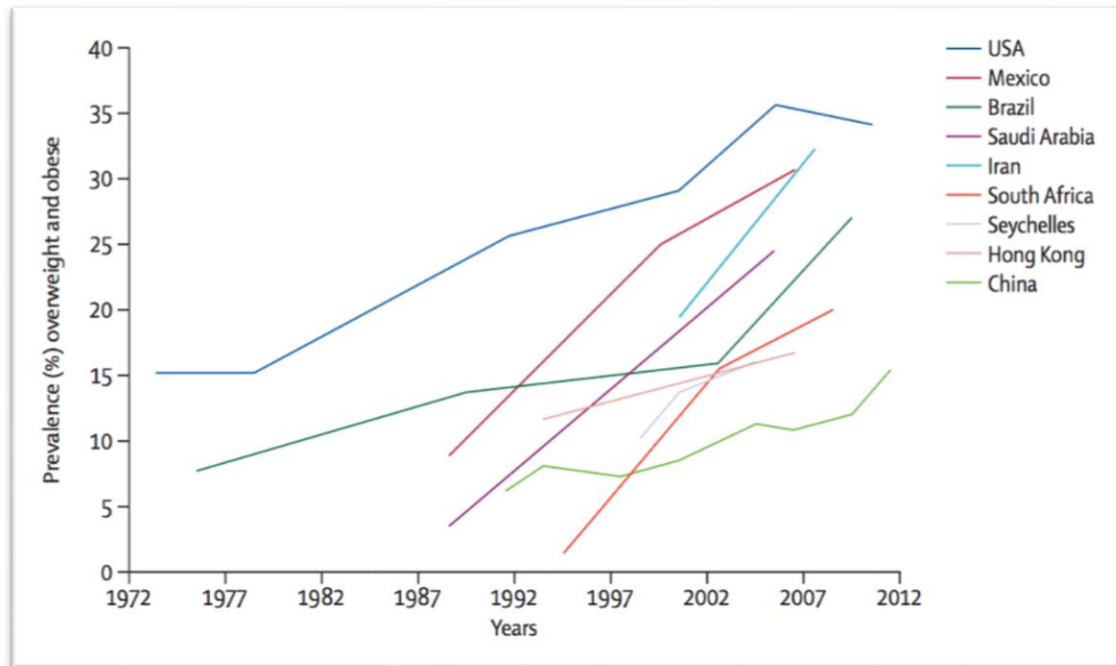
According to David Brooks (2012), Mexican diets were transformed after the NAFTA accord, changing from basic traditional foods to dense processed foods made from animals with high fats and additional sweeteners. Between 1988 and 1995, the average daily energy obtained by fats in Mexico increased from estimated 24% to nearly 31% (Brooks, D. 2012). Additionally, the intake of carbohydrates increased almost seven percent (Brooks, D. 2012). The Kantar World Panel reported that 30% of Mexican's income was spent on junk food (CNN Expansion, 2015).

The new economic model and the structural adjustments increased labor exploitation and productivity, generating greater overall earnings towards big multinational corporations. As the workload increased, power concentrated in the hands of those who ran the multi-national agriculture-related corporations (MNCs) (Saprin, 2001:11). Neoliberal global economic changes had no regards to specific regional and national contexts. There was no concern for economic, social and cultural differences. The introduction of highly processed foods created serious effects on Mexico's health.

However, Mexico is not an isolated case; the obesogenic epidemic has spread all around the world. Obesity and overweight have become a global epidemic. The expanding waistlines around the world are interrelated to dietary and lifestyle changes, particularly in developing countries. Consuming fatty and sugary products is rapidly taking control over patterns of consumption. Food quickly changed from a dietary need to a commodity sold like any other product, where quantity was replaced by quality. One of these effects was an increase in obesity. Obesity is a malnutrition problem, if not controlled, for the first time in history adults will outlive children (WHO, 2016).

The Table 1 below shows the prevalent trends in child obesity in Mexico. In the 1980's Mexico child obesity began to increase rapidly.

Table 1- Prevalence of Childhood Obesity



Source: Ferdman, R. A., 2015

Table 1 demonstrates how obesity is a global phenomenon. In 1990, there was a total of 32 million obese infants and young children in the world. By 2013, the number increased by ten million. The World Health Organization argues that “If current trends continue the number of overweight and obese infants as well as young children globally will increase to 70 million by 2025” (WHO, 2016). Michael Moss (2013) explains how low nutritional value products are appealing because of their accessibility, affordability and taste (Moss, 2013). Low physical activity also plays a significant role in Mexico's bad health. As individuals are consumed by technology, regular exercise is more and more rare in Mexicans daily lives. A large portion of Mexico's society is still

undernourished, and now having access to a vast number of unhealthy products is endangering their health even more (Moss, 2013).

Food products that are rich in salt sugar and fat can become addictive substances. The intake of such foods releases dopamine in the human body, a molecule that triggers a sensation of pleasure, that same reaction that can be found in drugs.

Table 2 - Average Caloric Intake



Source: Guthrie, A. 2015

Table 2 indicates Mexico as one of the highest calories consumed in the world. Urbanization, sedentary lifestyles, and economic liberalization of markets are contributing factors for this increase. As worldwide obesity increases, societies and governments all over the world are paying a large price on health. Obesity puts a strain on not only individuals, but on health care systems. It generates a loss of productivity, decreases development and produces a rise in mortality (Popkin, Wen Ng, 2006).

The Saprin report (2001) argues that:

“The authorization to import a myriad of goods initially served, although at a high economic cost, two purposes: to regulate the market and to improve the supply of essential goods (oils, maize and its derivatives, dairy products, poultry, beef, etc.) by modifying domestic prices to match international ones, inflationary pressures were reduced, but at the same time, gradually eliminating national industries, as they were unable to compete under equal conditions with the large transnational corporations” (Saprin, 2001:7)

Highly subsidized American products negatively affected Mexico's overall health. The imports of American products are cost-effective and more assessable to the Mexican people. The ubiquitous marketing and advertisement of the American products exasperate the competition between the domestic and imported products. The imported products are highly profitable but often lack nutritional value. Placing obesity- a preventable disease- as the number one health issue many countries are dealing with.

CHAPTER III: INDUSTRIALIZATION OF FOOD

Although our current international economic system has increased interconnectivity between countries, societies, and markets, it has also introduced dangerous patterns of over consumption throughout the world. In this chapter, I review literature on the impact of global trade policies and domestic food policies. I then examine the health literature about obesity, and finally I review the changes implemented in Mexico since the signing of the North American Free Trade Agreement (NAFTA).

Global Food Policies Since 1980

Economic free trade policies (mechanisms of production, free trade, economic deregulation and global food advertising) have perpetrated specific consumer patterns and quickly changed overall health and diets (Hawkes, 2006). In the 1980's these free trade policies created the "availability of food products, and agro-food systems, altering the quantity, type, cost and desirability of foods available for consumption"(Hawkes, 2006). The accessibility of highly processed products marked a global shift towards increased consumption of foods that contained considerable amounts of sugar and sweeteners (Popkin and Ng, 2006). This marked the start of a nutrition transition, a shift from nutritional value whole foods to high caloric diets. In their review of the nutrition transition literature, Barry Popkin and Wen Ng (2006) argue that obesity is so prevalent in low and middle-income countries that it has become a global phenomenon. They concluded that "there were several key themes in this diet change; urbanization was a major driving force in global obesity, and overweight and obesity were emerging in low and middle income countries".

The globalization of agriculture has especially had a large impact in urban diets. Agricultural systems and agricultural technology are factors that have changed the patterns in food supply and demand. Timothy Wise argues that the Green Revolution of 1960's found a way to produce and provide food in a cheaper way by industrializing and implementing technology into agriculture. This movement started off as a positive model until the mass produced food declined in quality. The quality of food began to negatively affect peoples' health (Wise, T. 2010).

After the implementation of NAFTA the United States exported agricultural products to Mexico at prices below their cost of production" (Wise, T., 2010). Timothy Wise argues how corn, soybeans, wheat, rice, cotton, beef, pork and poultry, were produced in Mexico in significant volumes before NAFTA. The United States government through the Federal Department of Agriculture still heavily subsidizes all of those products via Farm Bills (IDRC, 2013). U.S. products flooded the Mexican local markets and Mexican producers could not compete with the market prices. These products initiated a decrease in Mexico's overall health (WHO, 2014).

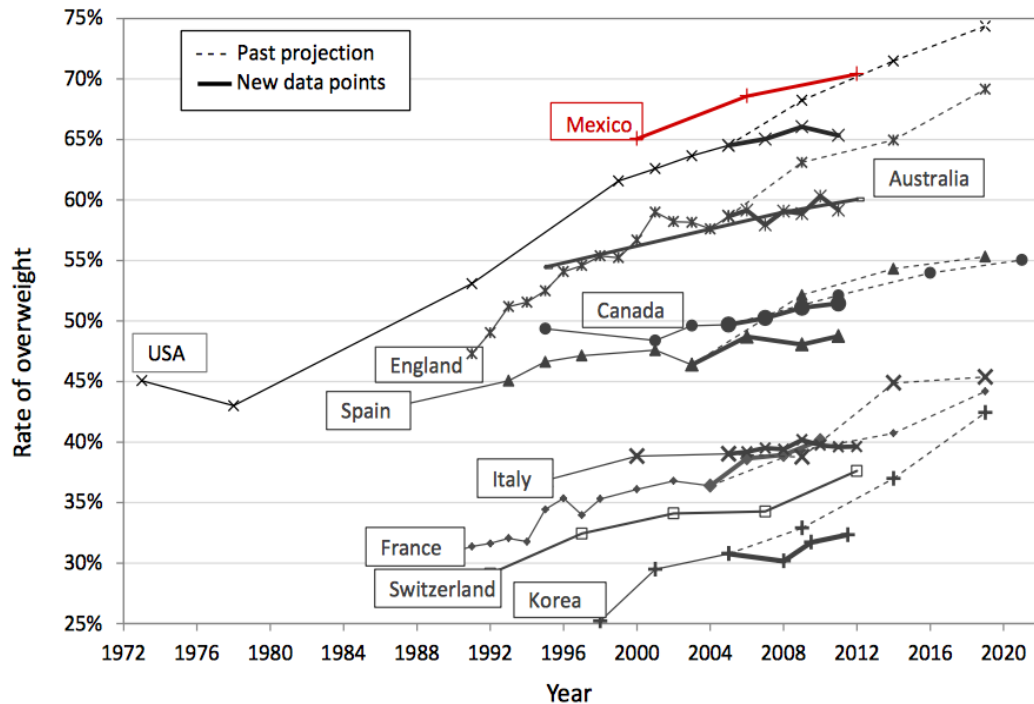
Farmers and other agricultural workers could no longer survive in the countryside, creating a migration push-factor towards cities. Since then, there have been changes in three major areas: 1) dietary patterns shifted from culturally appropriate products to the vast availability of imported goods; 2) a decrease in physical activity since most urbanized jobs do not require a significant amount of physical activity; and 3) a lack of government support for social policies that encourage health care and physical wellbeing (WHO, 2014).

Barry M. Popkin (2001) argues that the uneven playing field between the United States and Mexico is a major contributor of why Mexico's agriculture sector became weak. (Popkin, 2001:98). A clear exemplification of this is "The case of the tortilla in Mexico and the toll of NAFTA, allowing subsidized American corn to be sold in Mexico, which reveals the power of global trade" (Popkin, 2001:98).

In 2016 the OECD reported that Mexico's public spending on health care increased between 2.4% to 3.2% of GDP from 2003 and 2013 (OECD, 2016). However this increase does not always translate into better health: out of the OECD members, Mexican health budget spent on administration (nearly 10%) and individuals' out-of-pocket spending on health (above 40%) is the highest in the OECD (OECD, 2016). "The gap in life expectancy between Mexico and other OECD countries has widened from about four years to almost six years over the past decade" (OECD, 2016). Revealing that investment in health care is not interrelated with better health in a society.

The Institute of National Institute for Public Health (Instituto Nacional de Salud Publica) and the Mexican Ministry of Health (Secretaria de Salud) (SSA) argue that there have been important changes in food purchase expenditures since the 1980's. The Mexican Ministry of Health argues that by comparing expenditure in 1984 to 1998 that there is a decrease in purchased fruits and vegetables of almost 30% and milk by almost 27 %, meats by nearly 19 % and an increase in sugary drinks by almost 38 % (SSA, 2016). All these elements have contributed to the current issues Mexico faces in obesity and overweight. Table 3 shows the projected and current escalation of overweight and obesity and the ranking Mexico represents among the OECD countries.

Table 3 -Prevalence of overweight (including obesity) in adults in OECD countries.



Source: Organization for Economic Co-operation and Development, 2014

Since the signing of the NAFTA accord Mexico's uprising health issues around over-nutrition have only exacerbated and have positioned these low nutritional products well inside Mexico's diets and lifestyles. According to the OECD rates of overweight in future years are projected to continue to increase (Table 1) (OECD, 2014).

Corinna Hawkes (2006) adds that "Global economic policies concerning agriculture, trade, investment and marketing affect what the world consumes." Changes in diet and lack of daily physical activity are fueling the obesity epidemic. People living in urban areas consume diets distinctly different from those of their rural counterparts (Popkin, 2001). As countries import new products from other countries, they also import poor eating habits and those dietary changes are not suited for every type of society.

Food companies have been very successful in developed countries and have watched incomes rise. Afterwards, they started setting their sights on new markets (FAO, 2016). All over the world the same food that jeopardized health in developed countries is now mirroring those same effects in developing countries (FAO, 2016). Mexico is currently living in an obesogenic environment with daily meals high in fat and sugar (FAO, 2016). According to the World Health Organization (WHO), since the 1980's obesity rate has more than doubled worldwide (2016). Timothy Wise (2010) explains that in the past 20 years, overweight and obesity rates among Mexican children have increased by nearly 40%, precisely in the period when the NAFTA accord was implemented (Wise, T. 2010).

Haley M. Wilhelm (2016) explained that Mexico suffers from this obesogenic environment due to the fact that “ government policies fail to challenge the foundational issues that are a result of neoliberal trade policy and corporate power” (Wilhelm, H.M., 2016). Mexico's health crisis is not only based on consumer choices or lack of education but rather the influence of strong neoliberal policies that encourage this obesogenic environment (Wilhelm, H.M., 2016:14).

The FAO agrees with Popkin and Wen Ng that given this strong migratory push factor from rural to urban areas, cities are much more likely to experience obesity due to the change in diets. During the 1900's, 10% of the world population inhabited cities, today; nearly 50% of the world population resides in urban settings (FAO, 2015).

Economist Mark Weisbrot argues that from 1991-2007 almost five million Mexican farmer families were displaced to urbanized areas a net loss of 1.9 million jobs (Weisbrot, 2014) this loss of jobs in the agriculture sector translated into a strong

migration to cities (McBride, 2016). The FAO explains that the urbanized areas have greater variety of processed food products available at a less expensive price, and urbanized labor require less physical activity compared to rural settings creating more sedentary lifestyle.

The rise in obesity does not mean the eradication of hunger. As mentioned before the FAO explains that the impact of globalization has affected both developed and developing countries. Under nutrition and over nutrition are both forms of malnutrition, one is defined as insufficient intake of food and the other is overconsumption of food but lacking nutrients. Mexico suffers from a double burden of malnutrition: over-nutrition and under nutrition, are both present in Mexican society (FAO, 2016). Making it that much more difficult to control. Mexico's National Nutrition Institute (2012) estimated that 25% of Mexico's population could not afford basic food supplies (Carlsen, 2012).

Post 1994, the NAFTA altered Mexico's political, economic and social atmosphere. Wilhelm (2016) argues how the presence of multinational corporations such as McDonald's, Coca Cola, Inc. and Wal-Mart in the Mexican food sector changed Mexico's food habits. She explains that the present obesity epidemic is highly influenced by the food environment that has been developing throughout the last thirty years. The current food industry encourages consumption of fast food restaurants and convenience stores, which offer little (if any) fresh nutritional value products (Wilhelm, 2016:16).

Marketing to children forms a big part of that food industry. Anna Lappe (2013) argues that children and families are inclined to purchase these types of food or products given the strong marketing and advertisement behind the food industry. According to Lappe (2013) in the United States the food industry spends about two billion dollars

every year, marketing directly to children and teens. A particularly alarming fact is that food corporations target young individuals to purchase a certain product. On going bombarding of ads in the street (billboards), television or even in school (academic curricula products with the brand name of food corporations) build a brand loyalty (Lappe, 2013). Creating an “omnipresent danger” a term also known as “pester power”. Seen when parent buys a certain product for the first time only because the child is familiar with it and identifies the product by brand name. Lappe argues that if a child watches a “typical” amount of television a day, (in the U.S.) that child will be exposed to 4600 ads a year. Out of those ads, the majority is related to foods high in artificial sugar, fat and salt (Lappe, 2013).

Professor Marion Nestle agrees with Anna Lappe that advertising plays an important role, however Nestle distinguishes a difference. Nestle argues that low nutritional value food are designed to be sold in low income areas, which push lower quality in high caloric content of products. (Nestle, 2014). Professor Marion Nestle (2014) also explains that there is a strong correlation between food insecurity and obesity, since there is a worldwide root cause problem of income inequality. Income inequality correlates with the quality of food we purchase. The food industry has mass-produced food with more calories at a cheaper price and long shelf life thus creating incentives- especially for individuals in lower income areas -to purchase junk food (Nestle, 2014).

According to Marion Nestle there is clear example of that control, comparing commodity crops vs. fruits and vegetables within the food industry. In the United States commodity crops are corn, soy, beans and any crop that is highly subsidized, or have a price control. Policies such as those encourage the production of these products, resulting

in a simple supply and demand, making them highly profitable and accessible. On the other side, we have fruits and vegetables that in the United States are considered specialty crops. These have no support or subsidies by the government, stimulating individuals to purchase highly processed, and complex sugar products (M. Nestle, 2014).

Mexico imports almost 80% of the American-subsidized products (corn, soy, beans) (Wise, T. A., 2009). Even though Mexico also produces these products but it is cheaper to import given the fiscal incentives. In other words the food industry and markets discourage local nutritional products because they are not as profitable in the market as processed subsidized commodity products. Mexico's rate of consumption of these highly subsidized products is a clear example of Marion Nestle's perspective. (M. Nestle, 2014). Marion Nestle proposes a change in national policies. Nestle states how an issue that is entrenched in political interest requires a political solution (M. Nestle, 2014). Such a change in national policy would provide lower income individuals with more purchasing power to acquire healthier products to include in their diets (M. Nestle, 2014).

UC Berkeley Graduate School of Journalism Professor Michael Pollan argues that in the current food industry system the most pervasive foods in our eating environment are the ones that do not necessarily support our health, therefore stimulating bad habits and encouraging obesity in a society. This same food industry system is the one Mexico has adopted. Michael Pollan suggests that a short- and long-term solution for this issue is to return to home-cooked meals. A change in social patterns has to start with individuals' form of consumption such as reallocating a small time of our days to cook with whole food ingredients, instead of relying so heavily on the food industry. Michael Pollan argues that knowing the process of how the food we consume is made is as important as

taking care of one's health (M. Adam, 2016). There is a proven correlation amongst food and health. Michael Pollan explains that having a home cooked meal has a high amount of benefits to your health (M. Adam, 2016). The increase in populations in urbanized areas within Mexico experience a loss in valuable eating customs. The cultural transmission of knowledge given by cooking has been broken by a generation that cannot cook and rely on the food industry to provide nutritious meals. This cannot be further from the truth, the food industry's angle is purely lucrative (M. Adam, 2016).

Lastly, Professor Barry Popkin proposes a mixed approach between Nestle and Pollan's point of view to this health crisis phenomenon. He agrees with Michael Pollan in that a greater change can be made by social participation of changing the way people eat. The shift to larger portions of food and the variation on 'snacking' has significantly changed. In the 1960's, only children would have a sugary snack a day. Today, the average person snacks around two times a day and in the equivalence of a meal portion or even consider unhealthy high-caloric snacks as meals (B. Popkin, 2015). Professor Barry Popkin mainly argues that the more extreme change has not been in our eating but rather in our drinking. He refers to the known saying, "you are what you eat", but believes it is more accurate to say; "you are what you drink" (B. Popkin, 2015). "Mexicans consume more carbonated drinks per person than any other nation" (K. Watson, 2016). Currently, almost anywhere in the world, no matter how remote they share the same advertising campaigns by multinational corporations. The same brands and the same products, hence the same problem (i.e. you can find a Coca-Cola almost everywhere in the world.) Barry Popkin, believes it is not enough to just aim at social change but public policy also plays an important role to combat this obesogenic environment. Agreeing with Marion Nestle that a

policy, which includes taxation of unhealthy products and subsidies to wholefood products, is a viable solution (B. Popkin, 2015).

Obesity

Health is not only a core element in a society; it also determines development within a country (Peek, 2016). Medical and development experts are all concerned that the increase in obesity is not only a leading health indicator, but is also negatively affecting national development goals. Therefore, the reduction of obesity has been placed as a high-priority goal. In 1990, there was a total of 32 million obese infants and young children worldwide, and by 2013, that number had increased by ten million. According to the WHO, the number can increase to 70 million by 2025 if the problem of obesity is not addressed (WHO, 2016).

Non-communicable diseases are strongly correlated with overweight and obesity. Non-communicable diseases are not infectious but produced by genetic or lifestyle factors. These include: cardiovascular diseases, cancers, type II diabetes and chronic respiratory illnesses, which represent almost two-thirds of global deaths, in which “80% of these deaths occur in low- and middle-income countries” (IFRS, 2016).

Leslie Anne Peek (2016) argues that 70% of adolescents who are obese will continue to be obese or overweight in adulthood. Non-communicable Disease (NCD) Free, a social movement, believes that in order to prevent and control these diseases youth involvement is crucial (NCD Free, 2016). Engaging youth in the conversation can help bring awareness, and motivate and empower younger generations by teaching the importance of global health. The NCD Free advocates promoting skills, social innovation, activism and leadership towards young students, spreading the word of the

importance of preventing and controlling these of non-communicable diseases (NCD Free, 2016).

Ana Cristina Diniz Silva and Hiang Leng Tan (2016) argue that there has been a worldwide increase in sugar-sweetened beverages in the last ten years. Particularly in younger generations sugar and sweeteners are the main component that trigger non-communicable diseases such as type II diabetes (Silva, and Tan, 2016). Between 1989 and 2008, children had an increase of 60% in calories consumed of soft drinks. The percentage of children that consume these types of beverages has also increased from 79% to 91%. Silvia and Tan also argue that daily consumption of soft drinks (12 ounce) will increase the risk of becoming obese by 60% (Silva, Tan, 2016). In addition, the increase in non-communicable diseases has a strong correlation with global intake of sugar.

Other organizations such as the International Federation of Red Cross and Red Crescent Societies (IFRC) initiated an inclusive program through prevention, research, evaluation and advocacy via partnership alliances. Worldwide volunteers educate individuals about NCDs, and the Red Cross program suggests lowering four risk factors for NCDs: consumption of tobacco consumption, alcohol, unhealthy diets, and lack of physical activity. The IFRC assures that by making changes unto these harmful habits individuals will then have positive short- and long-term results (IFRC, 2016).

Medical experts, authors and organizations have proposed different explanations as to how these diseases begin and have spread throughout the world. However, severity of the problem is still upon us. Regardless of any perspective taken on obesity and NCDs, there is an undeniable link between unhealthy lifestyles and nutrition. Both of

these diseases are preventable, yet they are still the leading causes of death in many countries (NCD Free, 2016). The next section will exemplify this in the case of Mexico.

Mexico's Health

Maintaining food sufficiency and guaranteeing Mexican health was a major aim of the national government during the mid 20th century policy (R. Barnet, 1995:253). Although undernourishment was still present in Mexican society, the quality of the nutrients in the primary dietary of corn *tortilla*, beans, rice and *chiles* was much higher before the 1980's (Colin, 2016).

Since the 1980's children in Mexico have had an inclination to consume different food and snacks that prior to that generation families were not accustomed to eat. (Savage, Fisher, 2007) The desire to consume the denominated "fast foods" such as hamburgers, pizzas, sodas, potato chips and fried chicken among others came after Mexico liberalized its economy.

According to the Global Burden of Disease Study, Mexico is now one of the most obese countries in the world (Swanson, 2015). The UN revealed that 28% of Mexican boys and 29% of girls are overweight or obese (OECD, 2014). A healthy diet is a crucial and fundamental key that contributes to a healthy lifestyle. "According to reports from the Food and Agriculture Organization of the U.N. and the Organization for Economic Cooperation and Development (OECD) type II diabetes (for which obesity is a contributing factor) is now the number one cause of death in Mexico" (Kilpatrick, K., 2015).

The National Agreement for Nutritional Health, and Strategy Against Overweight and Obesity (*Acuerdo Nacional para la Salud Alimentaria Estrategia Contra el*

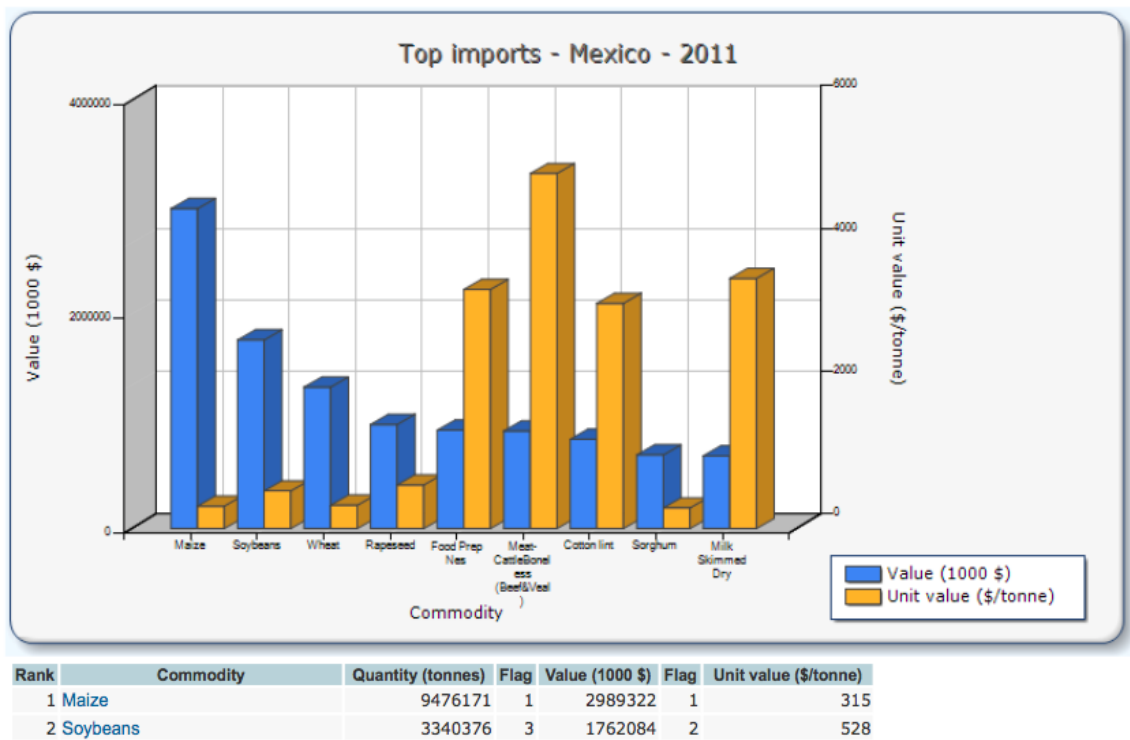
Sobrepeso y la Obesidad) [ANSAESO] 2010 report stated, “overweight and obesity have risen at all ages, regions and socioeconomic levels in Mexico” (ANSAESO, 2010) more than four million children and nearly 70 million adults suffer from obesity in Mexico. Categorizing obesity as one of the most severe health issues Mexico has faced (ENSANUT, 2012).

The Journal of Occupational and Environmental Health, displays that there was an increase in obesity in Mexico of twelve percent between 2000 and 2006 (Clark, S., 2016). During that period there was an increase in the country’s expenditure on processed foods, drinks and other foods with little nutritional value, allowing American businesses to have more presence in the day-to-day life of Mexican society.

Food Industry And Consumption

According to Amador, Mexico is the fifth producer of corn in the world, however it is also the second country in the world that imports more corn (Amador, O., 2016). Amador expresses how this as the “most oddest of all transactions” (Amador, O., 2016). Corn is one of Mexico’ basic staple foods and depends highly on the United States for this product. Today, 40% of Mexico’s imports come from the United States (Villareal, 2016).

Table 4 - FAO Mexico's Corn Imports



Source: Food and Agriculture Organization, 2012

The first column of Table 4 from the Food Agriculture Organization (FAO) Statistics shows the amount of corn imported by Mexico is much higher than the unit value, (which is the second bar) this means Mexico imports a great deal of corn or Maize but at a very low cost. Since NAFTA, Mexico has increased its dependency on U.S. yellow corn. Becker argues how “The more than \$10 billion that American taxpayers give to corn farmers every year in agricultural subsidies has helped destroy the livelihoods of millions of small Mexican farmers” (Becker, E., 2003). Since NAFTA, Mexican corn prices fell more than 70%. Therefore the incomes of 15 million Mexicans whose livelihoods depend on corn were reduced, leading to changes in their dietary customs and health (Becker, E., 2003).

As development progressed in urbanized areas, populations shifted towards cities with less access to sustainable food production (FAO, 2012:12). The displacement from rural to urban settings incentivized urban dwellers. These displaced citizens were faced with a nutrition transition, rapidly increasing their consumption of non-nutritious fast and processed foods. (FAO, 2012:11) By 2014, the World Health Organization reported that “most of the world's populations live in countries where overweight and obesity kills more people than underweight” (WHO, 2014). The FAO argues that “urbanization is expected to continue rising in both the more developed and the less developed regions so that, by 2050, urban dwellers will likely account for 86 % of the population in the more developed regions and for 66% of that in the less developed” (FAO, 2012:11). High rates of urbanization are creating social, political, and economic challenges of consumption, pollution of waters, public health concerns and lack of access to nutritious food (FAO, 2012:12).

In Mexico, the Global Development and Environment Institute studied the impacts on Mexican corn. Showing that from 1990's to 2005 there has been a 66% decline in real producer prices (Wise, T. A., 2009). The decline in prices has led to depeasantization of domestic producers in Mexico, which have in turn been forced to move either to urban settings or immigrate to the United States. Mexico has followed this free market dogma and because of it, its domestic agriculture has suffered.

Mega-chains like Wal-Mart Corporation are present in Mexico and Central America as Walmex. It's the largest division of Wal-Mart outside the United States. It owns a conglomerate of ten other retail store chains: Walmart Supercenter, Superama, Suburbia, Zona Suburbia, Sam's Club, Bodega Aurrerá, Mi Bodega Aurrera, Bodega

Aurrera Express, and Farmacia de Walmart, as well as two chain restaurants (Vips and El Potron). (WalMex, 2015) The number of Wal-Mart stores in Mexico grew from 114 to 561 from 1993 to 2001 and by 2005, Wal-Mart controlled 20% of all the retail food stores in Mexico giving multinational corporations such as this one a high input on consumption within Mexican society (Brooks, D., N.D.).

Other multinational corporations like fast-food chains also play a critical role in controlling the local markets with their low quality supply products. Fast-food chains like McDonald's have estimated 500 stores in almost 60 cities (Chalabi, M, 2013). Mexico is the largest regional market for the brand companies like, Yum!, owner of KFC, Pizza Hut, Taco Bell, and Long John Silver (Euromonitor, 2015). As food become a commodity, marketing campaigns play a major role in how people go about and choose what to buy.

Mexico has now a high dependency of processed foods that are perpetrating obesity and non-communicable diseases. In 2014, Mexico consumed around 160 thousand tons of potato chips and between Mexico City, Monterrey and Guadalajara. The three largest states in the country have an estimate of 30 million consumers. According to INEGI, 97% of households in Mexico consume low nutritional value products such as sodas, chips and candy generating around three million dollars per year, a very profitable market for any food company (INEGI, 2015).

CHAPTER IV: GOVERNMENTAL AND NON-GOVERNMENTAL PERSPECTIVES

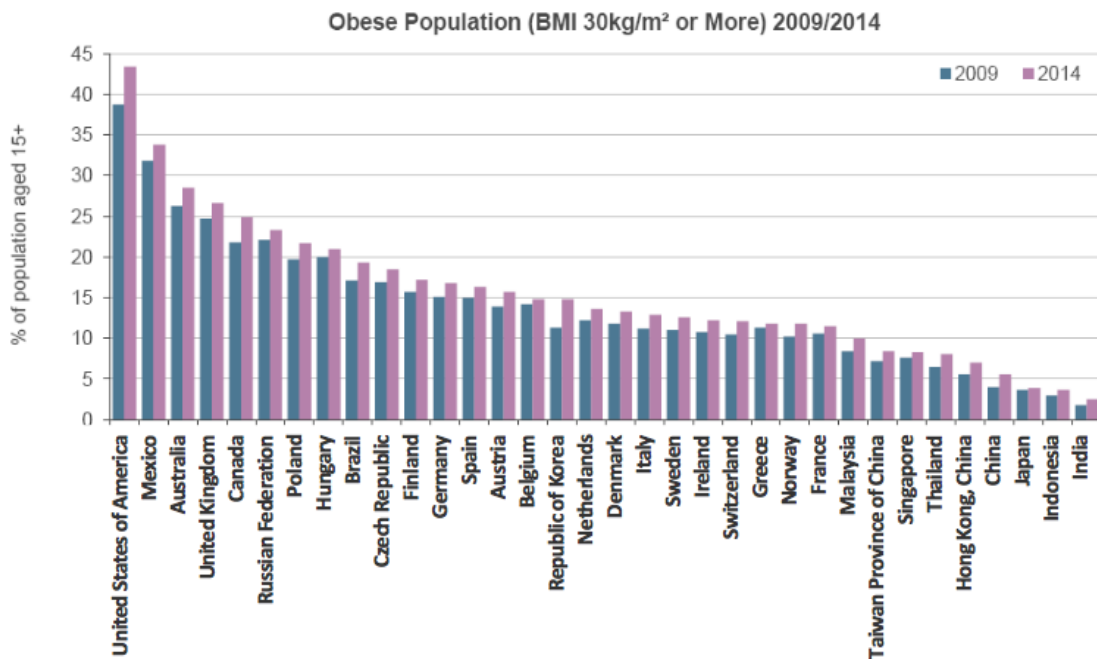
In order to identify and evaluate Mexico's current health epidemic, I use a meta-policy context approach. This entails political, economic and social factors around Mexico's obesity crisis. This thesis implements a policy analysis of three types of organizations, international organizations, Mexico's Federal Government institutions, and non-governmental organizations. First, actions taken by international organizations will be presented. Organizations such as the Organization for Economic Co-operation and Development (OECD) the WHO and the United Nations will help explain why Mexico's current health crisis has become a global concern. Second, actions taken by Mexico's Federal Government will depict the development of this obesity crisis through a historical timeline. Lastly, Mexico's non-governmental organizations such as Alliance for a Healthy Nutrition and Consumer Power Rights portray the responses and initiatives taken in order to control this epidemic. By covering these three organizations all major actors involved in this health epidemic will be analyzed.

World Alert

At an international level, Mexico's epidemic has caused growing concerns. International authorities such as the OECD, and the WHO characterized the rising rates of Mexican obesity and type II diabetes as a major health crisis and food dependency emergency (Huffington Post, 2015). In 2011 UN Special Rapporteur Oliver De Schutter, visited Mexico to investigate the current state of food insecurity. He noted that the current food system had failed to address hunger and had encouraged an obesogenic environment. Schutter argues that the food industry has created a systematic problem.

Food systems often work against the accessibility of healthy food products and choices. The 1980's transformation of agri-food systems played a major part in this problem. (Schutter, 2011: 13). Table 5 shows evidence from the United Nations Special Rapporteur report regarding obesity rates between 2009 and 2014. It indicates that obesity is not only increasing in Mexico, but it also increased in other countries.

Table 5 - Obese Population 2009-2014



Source: UN Special Rapporteur, 2011: 7

The Special Rapporteur concluded that:

“Current food systems are deeply dysfunctional. The world is paying an exorbitant price for the failure to consider health impacts in designing food systems, and a change of course must be taken as a matter of urgency. In OECD countries in particular, where farm subsidies remain at high levels, the current system is one in which taxpayers pay three times for a system that is a recipe for unhealthy lives” (UN Special Rapporteur, 2011: 20).

The OECD published a research document that analyzed the principal causes of why the market has this negative effect on societies. The research concluded that individuals imitate other people's personal decisions about their lifestyle and transmit that to others. For example, parents show their kids how to eat; therefore they learn to consume large amounts or even excess of food proportions. Also, irrational behavior in people may produce rash decision-making regarding the quantity of their food intake. This is seen when people develop an addiction to low nutritional value food and cannot control the quantities they consume hence overconsumption.

In 2016, the OECD reviewed Mexico's health and health systems. It revealed that various public policies if implemented correctly, could prevent illnesses related to obesity and type II diabetes (OECD, 2016). The OECD also suggests that with less than five dollars per person, the Mexican government could implement a three practical solution plan as a national campaign: labeling, regulation of publicity towards children and increase tax on junk food. Funds would be able to subsidize quality food and prevention campaigns (COFEMER, 2012). In Mexico type II diabetes is present in more than 15 % of adults; double the average of the OECD members (OECD, 2016).

Mexican Governmental Policies

Mexico's government did not have a consolidated national health plan until the 1990's. At the same time, their decision to move to a neo-liberal economic model led to critical damages for public health.

National Health Plans (1995-2015)

President Ernesto Zedillo (1995-2001) established in 1995, Mexico's first National Health Plan. As a primary goal, President Zedillo wanted to create a National

Health Plan that would continue into the future and would not be abandoned at the beginning of a new presidency. Mexico's national health at the time had very positive outcomes. An increase in life expectancy from 44 years of age in the 1940's to 72 years of age; mortality rates were halved, compared to the 1970's, and polio was eradicated as 90 % of the population were vaccinated (ENSANUT, 1995). Although there were many improvements made since the implementation of the National Health Plan, there were still prevalence of malnutrition and lack of access to drinkable water

Under the National Health Plan, individuals over 25 years of age were monitored to help prevent and control diabetes (ENSANUT, 1995). In order to alleviate the rising food insecurity, Mexico focused on a more comprehensive approach to human capital development. Through a national program named "*Progres*a program", that was implemented to target poverty, education, health and consumption were closely monitored. The program was based off of income transfer incentives via cash-grants. Grants were given to households that met certain health check-ups and school attendance. *Progres*a program turned a success story for Mexico. However the program was only aimed at extreme poverty cases in Mexico and is still continues today.

In 2001, President Vicente Fox (2001-2006), former Coca Cola employee, issued a new National Health Plan. It was not until 2001 that the Mexican National Health Plan showed a concern for over-nutrition and sedentary lifestyles. According to the National Nutrition Survey (*Encuesta Nacional de Nutricion*), estimated 30 % of the Mexican teenage population suffered from overweight and obesity. The National Health Plan adopted the body mass index (BMI). The same parameters used by the World Health

Organization to assess obesity. According to the assessment, BMI of between 25 and 29 indicates overweight and a BMI greater than 30 indicates obesity.

The prevalence and high rates of obesity and overweight forced the government to implement a national survey that would target chronic illnesses. The national survey found a dichotomy between two types of malnutrition present in Mexican society: under-nutrition and over-nutrition. The National Nutrition Survey (ENSANUT) from 1988 and 1999 showed a considerable increase in overweight and obesity. According to the National Nutrition Survey in 1999, around 30 % of women in their reproductive years were overweight and 22 % were obese (*Plan Nacional de Salud*, 2001-2006:50-51). Women 12 to 49 years old had an increased prevalence of 35 % in 1988, and a 53 % by 1999 (ENSANUT, 2007). By 2000, Mexico had eleven million women in their reproductive years suffering from overweight or obesity. The National survey also showed that almost six percent of children less than five years old, and nearly 28 % of children between five and eleven years old were overweight or obesity (ENSANUT, 2007). Hence, the increased mortality rates due to diseases related with obesity were apparent in the same years.

The unhealthy dietary consumption patterns of mothers were considered to create a higher predisposition in children to acquire obesity or diabetes. President Fox's health plan reflected the importance of controlling overweight and obesity given that it had become a national widespread issue.

Type II diabetes went from being the ninth cause of death in Mexico in the 1980s, to third cause of death by the year 2000. One of the main perpetrators of diabetes

is obesity. Mortality rates went from nearly 22% for every 100,000 individuals to almost 46 % in that period of time (ENSANUT, 2007).

The 2001-2006 National Health Plan suggested that to control the increase in obesity, the government should promote physical activity and diets with low in calorie. Children and teenagers were viewed as a priority cases. Additionally, educating the public was encouraged to spread awareness about obesity and the risks associated with the epidemic. Finally, regulation of advertisement of highly processed foods and products are necessary to combat obesity (ENSANUT, 2007). Nevertheless the rates kept increasing given that these modest efforts made could not compete with the enormous investments of huge multinational in marketing and advertising, (COFEMER, 2012:12)

By the time of Felipe Calderon's presidency, obesity was an undeniable issue. The National Health Plan (2007-2012) had to include something more than just recommendations (ENSANUT, 2007). The 2006 National Nutrition Survey showed that seven out of ten Mexican adults were obese or overweight. The survey also revealed that almost 40 % of adults in Mexico were overweight and another 30 % suffered from obesity (ENSANUT, 2007).

The problem of overweight had more prevalence in men (estimated 43%) than women (estimated 38 %) meanwhile obesity was greater in women (estimated 35%) than men (approximately 25%)(ENSANUT, 2007). Adding these would mean that 72 % of Mexican women older than 20 years old and 67% of Mexican men older than 20 years old suffer from overweight and obesity. Prevalence in adults shifted from nearly 35% in 1988 to almost 70% in 2006 (ENSANUT, 2007).

In 2010 President Felipe Calderon announced five initiatives to combat obesity in Mexico: increase physical movement, drink more water instead of sodas, eating more fruits and vegetables, visiting your local health clinic to regulate body weight, and lastly share these habits with people around you. These points helped control junk food in schools and bring awareness towards obesity, however it was not enforced as a law, and it was only pushed as a short program during his presidency.

By 2013, it was a matter of urgency to find a way to contain this epidemic. It became increasingly urgent because the preventable diseases became the leading cause of death in the country. Current Mexican President Enrique Peña Nieto presented three points on which the policy of national health would be based. President Peña Nieto announced that the National Health System (*Sistema Nacional de Salud*) needed to change in order to meet the needs demanded on health care and oversaturation of health services (Aristegui, 2013). To achieve these health objectives would need three different approaches: better access by fortifying public health care institutions, better quality service by bringing more modern technology infrastructure to hospitals and prevention, and anticipating illnesses to reduce mortality rates focused mainly on overweight and obesity; this last point being a pivotal importance.

Additionally, President Peña Nieto established the National Strategy for Prevention and Control Against Obesity (*Estrategia Nacional para la Prevención y Control de la Obesidad y la Diabetes*) (Aristegui, 2013) within the National Health Department. This strategy aimed to promote healthier lifestyles by: regulating what food is being sold in or around schools, increase physical activity, monitor information around overweight and obesity to better assess the problem, giving opportune medical attention

to better identify people who are at risk, and lastly, fiscal policies in favor of health: tax increase of eight percent on sugary drinks (Aristegui, 2013).

Other Governmental Organs

The Mexican Federal Government receives advices and inputs from experts to address national health concerns. The National Nutrition Survey, the Federal Regulatory Improvement Commission, and the Children's Hospital of Mexico are some governmental organs established to watch over Mexico's overall patterns of health. It is these organs that have a thorough understanding of the issue at hand. The National Health Plans published by the Federal Government are based on research information and surveys made by these governmental institutions and organizations.

To construct better public policies, essential information is needed. The National Nutrition Survey (which was previously mentioned) is an essential tool utilized by the Mexican government. The National Nutrition Survey provides this information in order to understand Mexico's current overall health and development. At the start of each presidency (every six years) the National Nutrition Survey applies a survey to the country to assess the progress and state of nutrition and health that Mexico has in that period of time.

In 2012 the National Nutrition Survey studied the prevalence of obesity in Mexican adults. The objective of the survey was to research and describe the prevalence of overweight and obesity in Mexicans of over 20 years old (ENSANUT, 2012). In order to determine their health trends the National Nutrition Survey used a sample of 4000 adults, and took the World Health Organization parameters in body mass index. The results confirmed the prevalence in overweight and obesity by 71.3% (38.8% overweight

and 32.4% obesity) and prevalence in abdominal obesity of 74.0%, higher on women (82.8%) than men (64.5%). In the last twelve years an increase in the percentage has risen from an annual 1.3% to 2.1% during 2000-2006 (ENSANUT, 2012).

The National Nutrition Survey concluded that tendencies show that the declines in prevalence of obesity and overweight were due to the recent increase in taxation.

Although the report states that this decrease does not mean that the percentages will keep declining in further years to come. That is why public policies on obesity prevention and control must be intensified (Barquera, Campos-Nonato, & Hernández-Barrera, 2013).

The Federal Regulatory Improvement Commission (*Comisión Federal de Mejora Regulatoria*) (COFEMER) is another official organ dedicated to show transparency and maximize benefits in Mexican society. COFEMER analyzed several preventable actions to combat obesity, which have been implemented by the government. The COFEMER research, showed how consumers make decisions that may reduce their social wellbeing. In 2012, the Commission revealed that children between the ages of 10 to 17 years old have the greatest prevalence in overweight and obesity (COFEMER, 2012). Overweight and obesity endanger public and private expenditure. Reducing productivity, and an increment of individuals affected by this epidemic.

Highly processed foods are very inexpensive which create a growth in purchase power. Families have shifted to a more sedentary lifestyle hence encouraging the continuation of these patterns of consumption (COFEMER, 2012).

Another governmental tool of research and care is the Children's Hospital of Mexico (*Hospital Infantil de Mexico*). They argue that the obesity epidemic is reversible. There is a possibility of overturning its consequences and taking control of the epidemic.

However in order for that to happen, Mexico has to implement exhaustive measures and execute them promptly. The root cause of the problem comes from social, economic and environmental issues that determine the lifestyle of people. The goal is to build societies with healthy dietary customs linked to a healthy lifestyle and physical health.

According to Barrientos-Perez and Flores-Huerta “health is without doubt related to economic policies but must not be separated by the critical role culture and society play in it” (Barrientos-Perez and Flores-Huerta, 2008). The Health Department (*Secretaria de Salud*), the Department of Public Education and the Institute of Public Medical Care, have not only provided research and daily treatment of patients but have also started public campaigns to inform citizens on the dangerous rise in obesity. However, these campaigns have a limitation of time, funding and reach, and are not enough to control Mexico’s epidemic.

Mexico needs campaigns that will engage with the society to show the severity of the problem, broadcasted in schools, universities, and work as well as hospitals, clinics within public and private sectors.

The Children’s Hospital committee recommends the following goals especially in schools: proper access to drinkable water, invest in the restriction on junk food and soda beverages sold in and near any school, provide incentives for schools to certify them as junk-free-schools, higher government regulation on vending machines and cafeterias. However, to fulfilling these goals is only possible through the National Health Department. This department relies on other governmental subdivisions to execute these programs. Making the hospital committee goals hard to achieve. Mexico’s obesity

problem is so grave that a unilateral strategy such as this one is very hard to execute (Barrientos-Perez & Flores-Huerta, 2008).

Non-Governmental Initiatives

Assessing obesity and overweight through policy actions, prevention and care campaigns are ongoing governmental strategies. However, Mexico's obesity epidemic cannot be tackled only through government effort. Non-governmental organizations and civil society movements have also reacted to Mexico's growing obesity epidemic. Concerned with this situation, investigations, research and social awareness movements have been implemented to help take control of the rising obesity rates.

Consumer Power Rights

Consumer Power Rights (*Poder del Consumidor*) is a Mexican civil society association created to defend consumer's rights. Established in 2006, the group's first national campaign was focused on the growing epidemic of obesity in Mexico. As part of their contribution on combatting the growing epidemic, the association fought for three main goals: nutritional standards in food sold in and near schools, elimination of marketing to children, and straightforward and clear food labeling standards. Consumer Power Rights believes that the beginning of the obesity cycle starts in childhood. Therefore, prevention measurements must start at an early age.

According to the Director of Consumer Power Rights (*Poder del Consumidor*) Alejandro Calvillo, Mexico is facing this epidemic due to two main causes: lack of effective health public policies and unhealthy changes in overall Mexican dietary customs (Calvillo, A., 2016). Consumer Power Rights conducted a research campaign. The research revealed that in order to put public health above commercial interest

Mexico needed to modify its general law on health regarding soft drinks. To achieve this, Consumer Power Rights research established the need for regulation that would raise taxation on soft drinks. The taxation on all sugary drinks products increased from 10 to 20%. In order to achieve a substantial reduction in consumption on soft drinks Mexico should raise the current tax of one peso per liter to two pesos per liter (Calvillo, A., 2016). The tax surplus that would come from this taxation should be invested in prevention and education awareness around overweight, diabetes and obesity (Calvillo, A., 2016). The Consumer Power Rights research also revealed that to achieve an obesity reduction, the strategy would also have to play an important part in education. Each school principal or director would be assigned to regulate and promote the consumption of local fruits and vegetables. Advocating also for better infrastructure and better access to drinkable water (Calvillo, A., 2016). Calvillo, director of Consumer Power Rights argues that Mexico's current economic system only focuses on profitable food interests and is hurting Mexico's future. Calvillo calls Mexico's fight against obesity a social justice movement.

Alliance For Healthy Nutrition

In 2012, the Consumer Power Rights promoted the creation of "Alliance for a Healthy Nutrition." It is a network of civil associations that implemented research investigations, presented several proposals to the government, supported other initiatives around Mexico to combat obesity, as well as educational campaigns. The Alliance for Healthy Nutrition (*Alianza por la Salud*) was created by the joint concern of civil society associations and organizations as well as academic professors alarmed with the growing epidemic of overweight and obesity in Mexico. Troubled about the risks this epidemic is

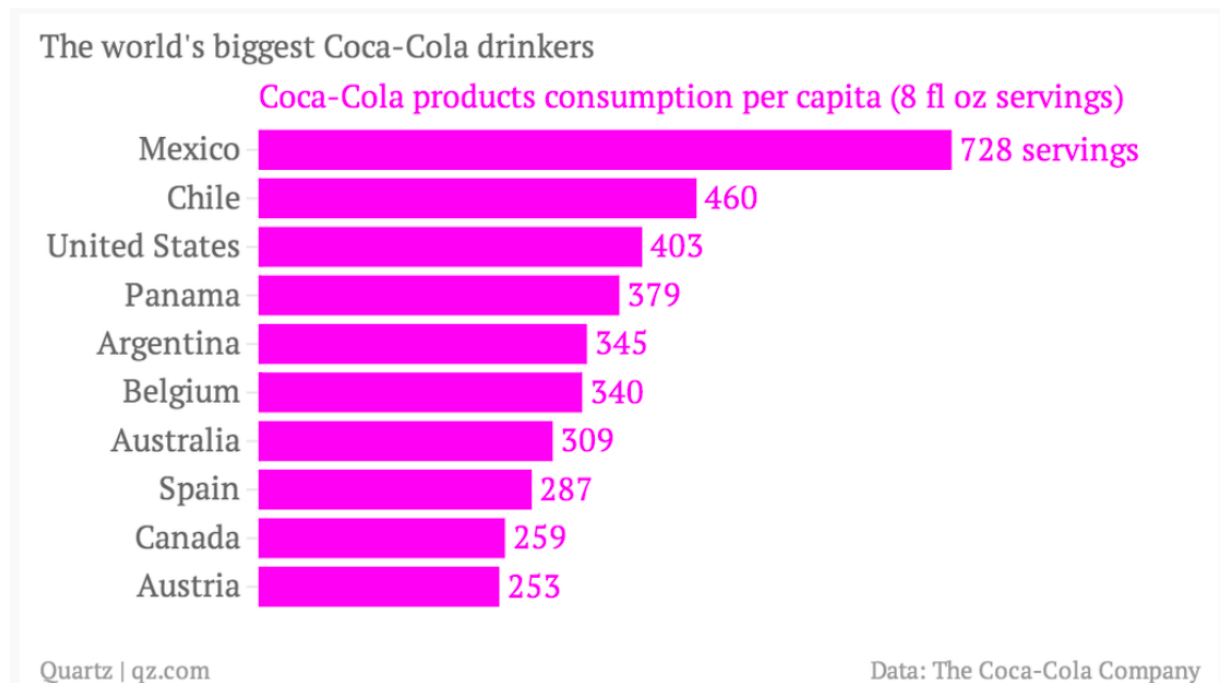
posing, these groups decided to join forces. The Alliance proposed an integral public policy that will combat obesity and malnutrition in Mexico. The Alliance is open to working with the government, in order for Mexico to achieve access to clean water, medical attention and food sovereignty. Some of these organization members are: Al Consumidor, ANEC, Blue Planet Project, CCESC-DDS Chiapas, COA *Nutrición*, *Contra Peso*, *El Bazon*, *Poder del Consumidor*, The Hunger Project, IBFAN Mexico, Oxfam, *Sin Maíz No Hay País*, Slow Food, *Via Organica* (Alianza Por La Salud, 2016). All of these organizations together demand that an inclusive public policy must include these arguments: Access to clear drinkable and public water, nutritional products to be sold in and near schools, eliminate and prohibit publicity of sugary drinks and low nutritional value products to children, promote a national health campaign, a fixed taxation on soft drinks and junk food, and lastly to ensure food security and food sovereignty.

The latest campaign created by the Alliance with help from NCD Free against obesity in Mexico is a documentary short-film, titled “The Taste of Change”. The Alliance for Healthy Nutrition portrays the history behind Mexico’s change in diet and the impact on citizens. It depicts the strength multinational corporations have in the market and why Mexicans are opt for sugary calorie-rich products versus nutritious food products.

Scientist Dr. Simon Barquera Cervera, stated at the 2016 Conacyt conference that since the 1980’s, Mexican “people have been eating less fruits and vegetables as well as basic staple foods and consuming more processed products such as instant meals, fast food, and an un-discriminated amount of fountain drinks” (Aristegui, C. 2014). According to the Mexican National Institute for Public Health, 9,200 people died in 2015

due to diabetes (SSA, 2016). Dr. Simon Barquera, argues that fiscal measures are key and must be taken to control the epidemic (Aristegui, C. 2014). Furthermore, Mexico seems to have a dangerous dependency on soft drinks as well. The Brand Footprint of Kantar World Panel revealed that in 2014, 99% of Mexicans bought Coca Cola products at an average of 82 times per person. (CNN Expansion, 2015).

Table 6 - Coca-Cola World Consumption



Source: Ferdman, R., 2014

Mexico ranks as the highest world's consumption of Coca-Cola products per capita. Table 6 shows Mexico outranking any other country in consumption in 2014. Coca-Cola is the most purchased brand in Mexican society. Followed by *Lala* a Mexican dairy company that has a penetration on 98% in Mexican homes and a purchase of an average 40 percent per year (Expansion CNN, 2015).

Another leading giant corporation in Mexico is the bread company Bimbo owned by Sara Lee. Mexican homes purchase Bimbo products 35 times per year (Forbes, 2015).

These mega-corporations have affected Mexican society's dietary habits by mixing traditional natural fats and sugars with junk foods from other countries resulting in an unbalanced diet.

CHAPTER V: THE CASE OF MEXICO'S SODA TAX

In Mexico, 70 % of adults and one third of children suffer from overweight and obesity. These rates create a pattern of high mortality and low mobility in Mexican population (Harvard T.H. Chan, 2016). Large multinational corporations have a strong presence in Mexican society. Concerned citizens, organizations, institutions and governmental authorities searched for a way to control this increasing epidemic of metabolic syndromes. In this chapter I will analyze a case study based on Mexico's soda tax, the Special Tax on Production and Services (*Ley del Impuesto Especial Sobre Producción y Servicios*) (IEPS). IEPS is a fiscal measure approved and applied by the Senate in 2014 (with 71 votes in favor and two opposing) to all sugary products that do not meet the nutritional value requirements. This case study exemplifies the viability of a joint effort between Mexico's governmental institutions and non-governmental organization.

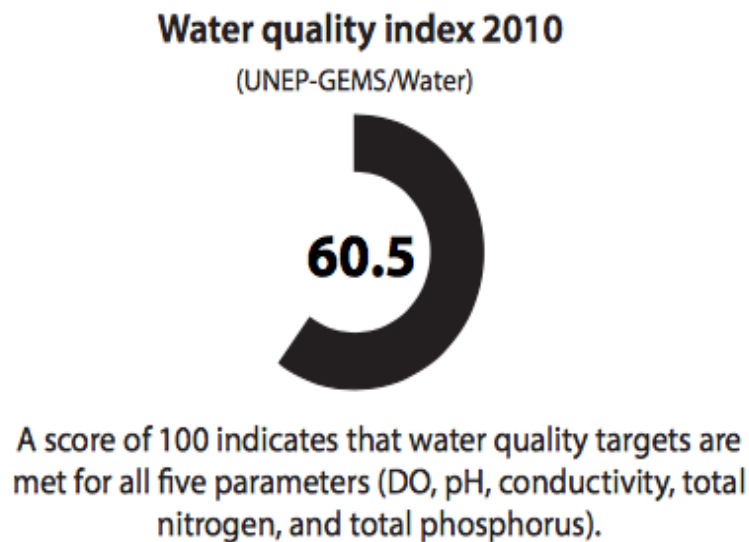
Water Vs. Soft Drinks

Ten million people in Mexico do not have access to water or even a drinkable water resource (Consejo Consultivo del Agua, 2016). Mexico needs equal access to drinkable water. Access to drinking water is a civil right and must be demanded. Mexico has a large population, 123,166,749 people (July 2016 est.) (CIA Factbook, 2016). However, geographically, the distribution of water around the country does not coincide with the population distribution (Consejo Consultivo del Agua, 2016). According to Carmen Arristegui, "terrains in Mexico can be difficult to transport water, but even in deep hard environments where it is almost impossible to provide drinkable water you can find a dispensary for sugary drinks like Coca-Cola" (Arristegui, C. 2014). Showing the

string presence and influence multinational corporations such as Coca-Cola have over Mexican society.

According to the UN Water Country Profile, Mexico is given a score of 60 UNEP/water for water quality. A score of one hundred is the optimum score given, which meets the standards of good quality drinkable water (UN Water, 2010).

Table 7 -Water Index



Source: UN Water, 2010

Furthermore, the UN water report states that “in Mexico, more than 70% of the water bodies have some degree of contamination: lakes, rivers, mangroves and coasts are polluted, affecting humans, animals and ecosystems” (UN Water, 2010). This is especially true in large urbanized areas where water balance is sustained by overexploitation of underground water. Also, nearly 40% of water is wasted because of infrastructure leaks and insufficient distribution (UN Water, 2010). Encouraging individuals to resort to sugary beverage products instead of natural water.

The lack of drinkable water is one of the factors contributing to the strong presence soft drink companies in the day-to-day life of Mexicans. Consumer Power Rights argue that Mexico needs to regulate publicity overall but especially to children. Multinational corporations that sell sugary drinks sponsor towns, schools, infrastructure events all over Mexico. For example, in Chiapas, corporations sponsor school playgrounds, buildings and even town street signs (Aristegui, C. 2014). Through these investments, corporations exert control over the Mexican society. Bombarding children with the imagery of their labels from a very early age this creates a cyclical custom culture.

If Mexico continues to experience an increase in metabolic syndrome rates, the state will not be viable to function in the future (Cellis, D. 2013). The General Secretary of the OECD Jose Angel Gurría, former Mexican Secretary of Treasury, warned the Mexican Government that rates of obesity and overweight in the country are putting in danger the current generations and is also endangering public and fiscal stability (Olivares, E., 2011). According to the documentary “The Taste of Change”, the average Mexican person drinks 163 liters of soda every year, and seven out of ten adults and one out of three children are overweight or obese (Alonso, 2011). Approximately 75,000 diabetes-related amputations are performed every year in Mexico and over 80,000 people die because of diabetes every year. In 2015 alone, 92,000 people died in (NCD Free, 2016).

Leaving a staggering dependency on sugary beverages and an almost certain chance of endangering Mexico’s health overall, Mexico has been tumbling around in a

constant vicious cycle of over consumption that is now perceived in present and future generations as “normal” social and dietary conduct.

Mexico’s relationship with the United States is highly intertwined economically, socially, geographically and thanks to globalization now more than ever, culturally. This unique linkage brings multiple advantages but also disadvantages. Unknowingly, we’ve endangered future generations with the creation of a food system in which economic profits prevail over health.

The Soda Tax of 2014

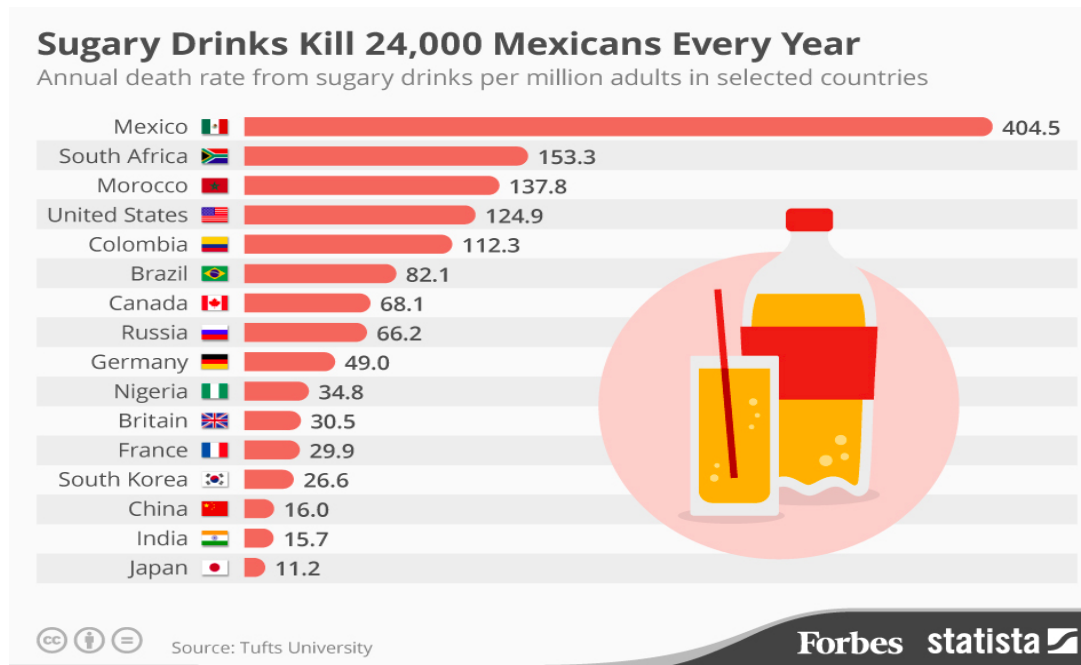
Acting unilaterally has little to no impact on this epidemic. A more holistic effort including both state policies and civil society participation, are key to improve Mexico’s circumstances. The only way to achieve any progress is to work together to push for more strict regulations on nutrition and healthy food sources. Only then, the hope for a promising future within Mexican society is possible. A clear example of the feasibility of this joint-effort was seen for the first time in 2014 through fiscal policy modification.

Mexico is the largest consumer per capita of soft drinks in the world. The Crusade against Hunger started when 47 organizations called for higher taxes on soft drinks to control the growing unhealthy epidemic. On January 1st 2014, despite relentless lobbying by the soda industry, the Mexican Congress enabled for the first time a new tax reform. The Special Tax on Production and Services (IEPS) would tax a total of eight percent over alienation or import on soft drink (those containing 275 kilocalories for every 100 grams) (*El Economista*, 2014) (Sahn, D., 2015).

This fiscal measure is the first integral effort by both governmental and non-governmental authorities. The IEPS tax affected the soft drink companies and market.

Table 8 shows the level of consumption Mexico has over these products. Sugary drinks kill around 24 thousand people every year in Mexico (McCarthy, N., 2015).

Table 8 - Mexico Has The Highest Death Rate From Sugary Drinks



Source: (McCarthy, N., 2015)

The Special Tax on Production and Services tax estimate was to collect nearly 181 billion pesos, representing one percent of Mexico's gross domestic product (Gomez P., 2015). The IEPS raised one peso per liter tax on sugar-sweetened products. This goal was achieved thanks to the determination of both civil society organizations and governmental institutions in an effort to reduce and control overconsumption leading to multiple NCD's and obesity.

A fiscal policy such as this incentivizes the public to opt for healthier choices and construct healthier diet patterns of consumption. As mentioned before, Mexico is one of the largest consumers of soft drinks. As the tax reform was accepted, lobbyists from major soft drink companies fought to maintain their dominance in the market.(Salcido,

V., 2014). According to Salcido, “the soft drink and food industries lobbied heavily to defeat the plan, but lawmakers refused their requests claiming that the tax is necessary to reduce rising rates of obesity and diabetes, as well as to raise revenue” (Salcido, 2014).

A study made by PLOS-Medicine (2016) showed that when the Special Tax on Production and Services was implemented, Mexicans reduced consumption in an average of five percent on products with high caloric content, a total of nearly 25 grams per person (Popkin, B., 2016). However the research did not show if families have stopped buying those products to buy healthier food or whether they are simply are opting to buy from informal street vendors that are not subjected to taxation. Still, the importance relies on the functionality of taxation (Batis, Rivera, Popkin & Smith, 2016).

Marion Nestle says that the soda companies “want to have it both ways — appear as socially responsible corporate citizens and lobby against public health measures every chance they get.” Professor Nestle also argued that soda companies like Coca-Cola and Pepsico spend millions of dollars in research in public health and then lobby against them. (O’Connor, A., 2016) Coca-Cola Company dominates 73% of the Mexican market versus the Unites States it only dominates 42% (Lopez, A., 2016).

After the approval of Mexican tax increase soda companies then launched campaigns promoting “light” products, or sugar substitutes. Rebranding their image and fortifying their allure to still sell heavily sugar content beverages. This taxation was also applied to all products with high caloric content, therefore an industry like McDonald’s or Starbucks which have a brand worth of nearly \$90 billion (2016) are likely to pay attention when a fiscal modification such as the one in Mexico is affecting on of their most loyal and profitable markets (Statista, 2016). Although it is highly unlikely that the

tax itself will eliminate obesity in Mexico, the Mexican Department of Health stated that with this eight percent increase in taxation to products and with a joint effort to educate a change dietary patterns, the state may expect to reduce obesity by eight to nine percent in the next ten years (Salcido, V., 2014).

The food industry changed the way we perceive food and the worth of it. Sugary products considered at a time as a dessert or treats are now our main meal course. Unknowingly profit over nutrition has quickly become a norm; the severity of this mix-up is tempting not only present citizens but also the entire future of a country.

Although fast food firms must comply with each country's specifications on every political, economic and social requirements they see fit (which is the perfect tool to control what they sell) sadly a multibillion-dollar industry such as this one provides much more incentives to sell or buy their products how and whichever way they want, without being able to compete with the government. Governments comply given the economic power those MNC's have.

One of the reasons why these corporations are so strong in Mexico is because they provide foreign direct investments (FDI), incentivizing the country's economy and growth, hence the tendency of sacrificing necessary goods for these types of products. Countries such as Mexico rely greatly on FDI and the threat of taking that investment elsewhere is one that is not easily trifled with; but when the whole country's health is at risk even governments and businesses have to put profit aside and recognize the gravity of the situation.

The British Medical Journal took an interest on Mexico's tax increase, studying on the effects a year after the implementation of the fiscal reforms. They observed data

on beverages purchased from January 2012 to December 2014 from a sample of almost seven thousand households, which provided more than two hundred thousand observations in 53 cities (Popkin B., 2015). In order to prove the effectiveness of the fiscal modification, that turned out to be a significant difference between post-tax trend purchases versus pre-tax trend purchases.

In 2014 beverages purchased on the newly taxed products were reduced by an average of six percent and decreases at a rate of 12% by December of that year (Popkin B., 2015).

Popkin argues that:

“All three socioeconomic groups reduced purchases of taxed beverages, but reductions were higher among the households of low socioeconomic status, averaging a 9% decline during 2014, and up to a 17% decrease by December 2014 compared with pretax trends. Purchases of untaxed beverages were 4% (36 mL/capita/day) higher than the counterfactual, mainly driven by an increase in purchases of bottled plain water” (Popkin B., 2015).

Lastly this study showed the need to continue analyzing the purchase patterns in Mexico post-tax to evaluate the health implications. Either way it is seen that the rise in taxation has been a success story in Mexico’s fight against overconsumption of products with low nutritional value. The WHO stated that taxation is a viable way to control this epidemic and urges other countries to use this strategy (WHO, 2016).

Professor Barry Popkin Professor of Nutrition at the University of North Carolina, whose team conducted a study on the effects of the Mexican tax reform, stated that the reform was somewhat similar to tobacco taxes. Marion Nestle says that Big Food is the new Tobacco. Mexico needs taxes that not only raise revenue but also will discourage individuals from over consuming products that affect their health and wellbeing (M.

Sanger-Katz, 2015). The 2014 fiscal reform is a success story for Mexico, which shows that a joint effort (governmental and non-governmental organizations) is a viable tool to use in order to control and prevent obesity rates to increase in Mexico.

The IEPS tax brought a small halt to the omnipotent control junk food companies have over Mexican society. International corporations such as World Health Organization and the OECD seem to agree that obesity is a current life-threatening disease, which has proliferated all around the world. According to the World Health Organization, obesity is a malnutrition problem that has to be controlled to secure the wellbeing of future generations. Fiscal measures such as this one should be further encouraged in other junk-food products in order to make healthy whole foods more appealing.

CHAPTER VI: CONCLUSION

Mexico's health has become an overriding social and public issue. The country is heading towards a slippery slope that is putting present and future generations at risk. The food industry plays a significant role in Mexico's current health changes. Before the NAFTA accord one could buy a bowl of fresh fruit, freshly squeezed lemonade, and a natural corn popsicle with only ten pesos. Today ten pesos will only purchase a Coca-Cola or other brand of soft drink. This increase in the cost of local products has affected households throughout Mexico. Mexico's imports from the United States have quadrupled since the North Trade Agreement and food dependency on the U.S. is increasing more with time (Maryknoll, 2015).

This thesis set out to answer why Mexico has an obesity epidemic and what could be done to control it? The study analyzes policies and initiatives brought forth by governmental and non-governmental perspectives. The viability of the creating of a unified effort between governmental and non-governmental organizations was exemplified with the case study success of the IEPS tax. I propose expanding fiscal measures to all junk food in Mexico and including seven common key points.

Since the 1980's Mexico's trajectory in neoliberalism has experienced: growth in foreign direct investments, growth in the industrialized sector and has managed to build a strong manufacturing sector. Nevertheless, it has also accelerated privatization of state-owned businesses, decreased public subsidies, and focused state funds to pay off international debt. A cookie-cutter global economic system that promised a trickle-down effect in income equality has yet to trickle down. Foreign direct investments and certain neoliberal policies such as open markets to free trade or minimal government

interventions can be effective in an economy; it all depends on how these are implemented. Cheap food products are highly profitable for multinational corporations. However, when low nutritional value products threaten individuals health, then these are doing more harm than good. Prioritizing economic profits above the security of the Mexican people is not guaranteeing a healthy future.

Neoliberal policies have increased dependency on international imports and have reinforced the industrialization of farming. The new agro-industry puts at risk Mexico's ancient agricultural diet heritage. Vast exposure in publicity and marketing towards these industrialized products, have perpetuated a consumerism culture in the growing Mexican population.

During the last three decades, Mexico increased the numbers of jobs and economic growth. However, at the same time important nutritional customs have drastically changed, leading to very high rates of obesity and NCDs. Mexico has thus created a double-edged sword. The model of industrial agriculture has benefited big corporations, but has produced food with little nutritional value that has worsened the health of much of the population.

Obesity and type II diabetes have become epidemic in Mexico. In 2014, the Mexican government acknowledged the gravity of the situation by approving a fiscal change in all high sugar content beverages. This rise in taxation was a breaking point and a step forward in the right direction to control Mexico's obesity epidemic.

The United Nations' Special Rapporteur attributed Mexico's current obesogenic problem to food and nutrition policies. This epidemic knows no borders or limitation. Countries or societies that have been exposed to these unhealthy products have had a

change in their dietary patterns. The case of Brazil exemplifies this exact statement, but also provides us with an example of other kinds of remedies that could be applied.

The Case of Brazil

Development of the food industry turned Latin American countries into key markets and continues today. At the time, economic political policies favored the immersion of these commodity products (and still do). Markets aggressively expanded through Latin America. Brazil and Mexico, two regional economic powers, are experiencing similar problems regarding health and food. The industrialization and commodification of food affected both countries similarly, disrupting development and their population's health.

Dr. Carlos Monteiro, from the Center for Epidemiological Studies in Health and Nutrition at the University of Sao Paulo, has extensively studied the links between nutrition, health, and development in Brazil (Huber, B. 2016). Dr. Monteiro, brought a new approach to the battle against what he calls ultra-processed foods. His goal has been to design a diet that is based on minimally processed foods. In order to control what we eat and how it affects our health.

Dr. Monteiro observed an increase in Brazilians' obesity problem when highly processed products were introduced into the market. People were eating much larger quantities of much lower quality foods (Huber, B. 2016). In order to address this phenomenon, he proposes smaller overall portions of food, including smaller amounts of processed foods and larger amounts of whole foods. In his opinion, this is the key to a balanced diet and the key to controlling obesity. Moreover, he argues that, in Brazil, the people who have continued to consume freshly prepared dishes and have the best overall

health tend to live outside urbanized areas. Meaning, that highly processed products are scarcer in rural areas. Thus exempting these residents from the wave of overconsumption.

Dr. Monteiro did a study in 37 countries to find a link between poverty and development. The results came out to be that when a country faces economic development, growth has to be accompanied by public policies; if not, the risk of obesity is greater. A point that is perfectly seen in both Brazil and Mexico's economic development, the lack of strong public health policies brought high rates of obesity thereby demonstrating truth in Dr. Monteiro's study (Huber, B. 2016).

This thesis also exposed other solutions presented by well-known U.S. authors like Michael Pollan, Marion Nestle, or Barry Popkin. Relying on national policy change, social change or both, but all aiming to change dietary patterns for future generations.

However, the remaining question is still present. What strategies should Mexico follow to control obesity and NCDs for present and future generations? Fiscal measures are clearly a viable choice. Mexico should push for more taxation on all low nutrition value products, in order to allow whole foods to compete and attract consumers. The soda tax was a success by showing a decline in consumption, which is now quantifiable. Still, Mexico is yet to measure the correlation between a decrease in consumption and a decrease in obesity or NCD's.

Publicity may control certain patterns of consumption but having a well-informed society is key to well-informed decisions. Demanding the right for a better and healthier lifestyles is possible through education and social empowerment. A scenario where multinational cheap food corporations are nonexistent is a utopian dream. The food industry has acquired the best possible profit opportunity and has grown immensely.

Mexico must transition to a more sustainable way of production and consumption that not only maintains a boost in economic growth but also promotes a healthy lifestyle.

Mexico's obesogenic epidemic has been fueled by the food industry but also by the lack of national protective policies over food and health. Mexico's food system needs to change, and that can be achieved through a joint effort between society and government authorities.

Institutions, governmental authorities, and social initiatives, international institutions, academia, and researchers all agree that obesity and NCDs are preventable. However, strategies to achieve prevention or control over obesity vary depending on each actor. In Chapter IV: I examined several governmental and non-governmental Perspectives that presented viable options. Both governmental and non-governmental perspectives share seven major strategy points in how to control Mexico's obesity crisis. In order to build a more holistic strategy against obesity, Mexico should build off those commonalities: 1) increase physical movement in society, 2) promote health campaigns to educate individuals about the risks and consequences that junk food may inflict, 3) encourage the drinking of water instead of soft drinks, 4) regulate food sold in and around schools, 5) implement fiscal policies on low nutritional value products, 6) regulate the marketing towards children from multinational food corporations, and lastly 7) incentivize local markets by buying locally supporting agricultural development. It is important to encourage government and civil society to agree to exhaustive measures in order to control this epidemic.

These seven common points cover crucial arguments that are needed in order to control the exacerbated increase in malnutrition. A policy strategy involving these seven

points will create a more cognizant society concerning, dietary needs, obesity prevention and demand for healthier food choices. Also, Mexico would be helping create and maintain a healthier more productive society.

Given that NCD's and obesity are a global phenomenon, institutions, governments and social movements all over the world aim to control and prevent this outbreak. However, the proposed policy strategy is particular to Mexico's case. Meaning that what works in one country might not in others; there is no one solution. In the 1980's an "economic recipe" was implemented on to all Latin American countries in order to achieve economic development. This "recipe" deteriorated nutrition and health in countries like Mexico and Brazil. Not taking into consideration uniqueness of each country has resulted counterproductively. Even though some economic development has occurred; those gains have been lost given that societies are battling a critical health crisis.

There is no cookie cutter solution to this epidemic. Solutions have to be applied and modified depending on country, society, and culture. Food regulations, education, fiscal policies, social movements, protection of schools, increase health prevention, etc. are tools that can be chosen to prevent these diseases; but one common problem does not have one solution.

Future Study

As mentioned before, this is a long-term process with long-term solutions, which reflects on the importance of maintain pressure to change little by little in a social and political perspective. The evidence provided in this thesis demonstrates that there are in

fact, many commonalities in the over nutrition epidemic around the world. Starting with economic policies linked to the first increases of over nutrition.

The food industry has made food a fearful object; we must learn to trust our food again and to do so we must demand to know where it comes from, how it is produced and have equal access to it. An obesogenic environment such as the one in Mexico has will not disappear in one or two years this is a long-term problem with both short- and long-term solutions.

The research was limited by its inability to conduct on the ground research in Mexico. Moreover, research is limited by secondary sources of academic journal research and government and NGO websites. Future policy strategies should include: more information regarding farming strategies that are efficient enough to not only serve public needs and distribution but also to not harm our environment or our bodies; Mexican field workers must be taken into consideration; using the surplus of taxation not only for educational campaigns but also to invest in improving current infrastructure to achieve a better distribution of natural produce and drinkable water; furthermore, eliminating toxic pesticides, herbicides and genetically modified organisms (GMO) away from food. Additionally, future research should opt for precision agriculture and GMO-free products as well as simple and clear labeling of products. Additionally, future research should also include an evaluation of present governmental and non-governmental initiatives as well as the IEPS tax on soft drinks. Lastly, monitoring the adequate allocation of resources gained by the fiscal measures taken. However, in order for any solution to work, Mexico needs to have a united front to fight and protect its citizen's health and its future, starting today.

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